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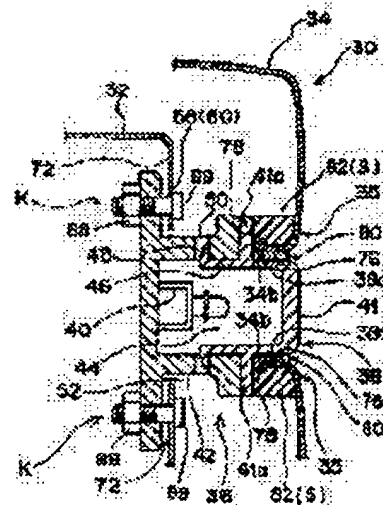
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(54) MOUNTING STRUCTURE OF LAMP

(57)Abstract:

PROBLEM TO BE SOLVED: To reduce a gap between a lens and the aperture end part of an outer panel by providing a mounting means to mount a lamp body to a fixing part and a sealing means between the peripheral edge part of a lens and the vehicle internal side of the aperture peripheral edge of a mounting hole.

SOLUTION: A trunk lid 30 comprises an inner panel 32 and an outer panel 34. A lamp body 36 comprises a housing 42 to contain a valve 40; and a lens 41 mounted on the aperture 44 of the housing 42. The lens 41 is locked in the engaging hole 50 of the housing 42 by the claw 48 of a leg part 46 having elasticity. The aperture end 34b of a mounting hole 38 having an inner peripheral surface 38a bent in the direction of the interior of a trunk chamber is disposed such that contact is effected in the vicinity of an approximately orthogonal part between the face parts 76 and 78 of a rib 80. One end of a sealing part 82 is forced into contact with and pressed against the flange 41a of the lens 41 and the other end forced into contact with and pressed against the inner side of an outer panel 34. In a manner described above, a sealing material 82 is disposed along the outer periphery of the lens 41.



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CLAIMS

[Claim(s)]

[Claim 1] The body of a lamp equipped with housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and the lens inserted in opening of this housing, Opening formed in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car, The fixed part which is formed in the edge of this opening and supports the above-mentioned body of a lamp elastically, Attachment structure of a lamp characterized by having the seal means established between an attachment means to attach the above-mentioned body of a lamp in an up fixed part and the periphery section of the above-mentioned lens, and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole.

[Claim 2] The body of a lamp equipped with the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, Attachment structure of a lamp characterized by having the seal means established between an attachment means to attach the above-mentioned body of a lamp in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car and the periphery section of the above-mentioned lens, and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole.

[Claim 3] The body of a lamp equipped with the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, Opening formed in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car, Attachment structure of a lamp characterized by having the fixed part which is formed in the edge of this opening and supports said body of a lamp elastically, an attachment means to attach the above-mentioned body of a lamp in the above-mentioned fixed part, and the seal means established between the above-mentioned lens periphery section and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole.

[Claim 4] The above-mentioned fixed part supported elastically is attachment structure of a lamp according to claim 1 or 3 characterized by being formed so that it may become the spring structure of both **** with the infeed which cooperated with the above-mentioned opening and the infeed prepared in abbreviation parallel along the edge of the above-mentioned opening, or consisted request spacing along with the above-mentioned opening, and was prepared in abbreviation parallel.

[Claim 5] The above-mentioned fixed part is the attachment structure of a lamp given in either of claims 1, 3, and 4 which is characterized by being fabricated by said inner panel at one.

[Claim 6] The above-mentioned fixed part is the attachment structure of a lamp given in either of claims 1, 3, 4, and 5 which is characterized by having the elastic section which consists of the crevice or heights which is prepared in the both sides of the clamp face where said body of a lamp is fixed, and this clamp face, and regulates the fitting location of the above-mentioned body of a lamp.

[Claim 7] The support direction of the spring structure of both ** of the above-mentioned fixed part where the above-mentioned fixed part is equipped with the spring structure of both ****, and is prepared in the longitudinal direction

both-ends side of the above-mentioned body of a lamp The support direction of the spring structure of both **** of a fixed part prepared in the both-ends side of the side which intersects the above-mentioned longitudinal direction axis is the attachment structure of a lamp given in either of claims 1, 3, 4, and 6 to which at least 90 abbreviation is mutually characterized by being arranged so that a phase may be different.

[Claim 8] It is the attachment structure of a lamp according to claim 2 or 3 which the opening periphery of the above-mentioned mounting hole has the inner skin bent by the method of the vehicle interior of a room, and is characterized by forming the above-mentioned rib in the shape of [which contacts the both sides of the direction side apical surface of the vehicle interior of a room of this inner skin, and this inner skin] L character.

[Claim 9] It is the attachment structure of a lamp according to claim 1 to 6 which the above-mentioned inner panel has the lamp bracket projected and prepared in the above-mentioned outer panel side from the inner frame which supports an outer panel, and this inner frame, and is characterized by forming the above-mentioned fixed part in this lamp bracket.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] this invention relates to the car body which consists of the inner panel and outer panels of a car, such as an automobile and an electric car, at the attachment structure of lamps, such as attachment ****, a high mounting stop lamp, a stop lamp, a back lamp, a car width lamp, and a blinker lamp.

[0002]

[Description of the Prior Art] As everyone knows, various structures are adopted as a real vehicle, and the attachment structure of the above-mentioned lamp is proposed. Drawing 15 which shows the cross section which meets the 15A-15A line of drawing 14 and this drawing 14 which shows the back strabism of a passenger car for example, about the high mounting stop lamp of the above-mentioned conventional example, and drawing 16 which shows ***** of the lamp equipment of drawing 14 explain.

[0003] The above-mentioned high mounting stop-lamp equipment is formed in a part with sufficient visibility from the road surface of a car posterior part from back cars, such as a tooth back of a high location, for example, a trunk lid, and a rear shelf top of the vehicle interior of a room or an inferior surface of tongue of head lining, and since it becomes easy to check on a back car whether brakes operation of a car has been carried out, recently, it is attached in many cars. For example, when high mounting stop-lamp equipment 10 is attached in the tooth back of a trunk lid 6 which consists of the inner panel 2 and the outer panel 4 of the above-mentioned car as shown in drawing 14 -16, Although the lens 12 with which the lamp housing 16 was equipped is inserted and exposed to the opening 14 of the outer panel 4 and the body 16 of a lamp is fixed to the inner panel 2 with the lamp bracket 18 If it fastens too much when the lens 12 touches the direct outer panel 4, and it fixes to the inner panel 2 with a bolt 20 and a nut 22, a hit of a lens 12 and the outer panel 4 will become strong, and distortion will occur on the outer panel 4.

[0004] In order to cancel this, opening 14 of the outer panel 4 was conventionally made larger than the appearance of the insertion section of a lens 12, the sealants 24, such as sponge and rubber, were allotted to the clearances 26 and 26a between opening 14 and the perimeter of a lens 12, and the lens 12 has prevented contacting the direct outer panel 4. Furthermore, there are some which it is distortion-hard and are being carried out by constituting a bracket 18 from an elastic member and carrying out elastic support of the body 10 of a lamp to the inner panel 2.

[0005] Moreover, as above conventional examples, although there are JP,7-81480,A, JP,7-18979,U, etc. While concluding two or more elastic mounting brackets 18 formed by the plate fixed to the body of a lamp like the above-mentioned conventional example with a bolt 20 in the opening periphery section of the inner panel 2 Opening 14 of the outer panel 4 is made larger than the appearance of the insertion section of a lens 12. A protector softer than a sealant 24 or this lens is arranged in the clearances 26 and 26a between opening of the above-mentioned outer panel, and the perimeter of a lens 12, and it is made for a lens 12 not to contact the direct outer panel 4.

[0006]

[Problem(s) to be Solved by the Invention] However, if any attachment structure of the above-mentioned conventional example explains drawing 14 -16, as described above Opening 14 of the outer panel 4 for inserting a lens 12 and making it expose to the back side of this car is made larger than the appearance of the insertion section of a lens 12. Since sealants 24 and protectors, such as sponge and rubber, are arranged in the clearances 26 and 26a between the above-mentioned opening 14 and perimeter of a lens 12, Since a sealant 24 and a protector can be seen from back, if appearance is bad and a sealant 24 deteriorates according to secular change, the fault of the fitting location of a lens 12

advancing into the trunk room which the **** lens 12 inclines, or a clearance is made into a seal part, and neither water nor dust illustrates will occur.

[0007] Moreover, in what used the elastic mounting bracket 18 as the elastic member, in order for the reaction force of an elastic member to have to shift from the path of insertion of a lamp at the time of anchoring or to have to give elasticity to elastic mounting-bracket 18 the very thing, it will become the thin and thin rigid weak bracket 18.

Therefore, since the body 16 of a lamp may vibrate by the vibration under transit etc., or a location gap occurs and a lens 12 may contact the outer panel 4, neither a sealant 24 nor a protector can be abolished.

[0008] Therefore, it is necessary to use elastic material, such as expensive spring material, for the elastic mounting bracket 18 fixed to the above-mentioned body 16 of a lamp, for example, and with the attachment structure of which conventional example where it explained above, moreover, since it is required, two or more costs of the above-mentioned lamp equipment will increase. Moreover, since the seal of the sponge rubber which is a sealant 24 is compressed and carried out by the elastic force of the elastic mounting bracket 18, The configuration of the elastic mounting bracket 18 which expected the precision of the above-mentioned inner and the bottom assembly of the panels 2 and 4 of an outer is required. Since fitting of the elastic mounting bracket 18 is carried out to the projection prepared in the trunk indoor side face of the body 16 of a lamp or it is attached with the screw etc., If the anchoring error to the body 16 of a lamp of the elastic mounting bracket 18 arises, it is very difficult to secure this precision, this manufacturing cost increases and it makes a mistake in the hope of the above-mentioned precision It is [by which the assembly dimension of each part article of this lamp equipment comes], and there is a possibility that the fault of water, dust, etc. permeating may occur.

[0009] Moreover, as described above, since the sealant 24 is made to only pinch between the edge of the opening 14 of the outer panel 4, and a lens 12 as shown in drawing 15 , there is a possibility that the above faults etc. may occur that the location of the lens 12 to the opening 14 of the outer panel 4 cannot be decided [therefore] easily, and a man day starts anchoring of the above-mentioned lamp equipment between. The lamp bracket which it was originated in view of such a technical problem, and this invention is one-like as a lamp housing, and was formed by making rigidity high The surface part which is made to fix to the elastic section with the elasticity prepared in this inner panel side of the periphery section of opening of the inner panel by which the body of a lamp is inserted, and extends on the periphery of the insertion section of the lens of lamp equipment on the other hand in the lens path of insertion, By having two or more ribs which have this surface part and the surface part formed in one, while extending in the direction which intersects this surface part, and preparing a sealant between the medial surface of an outer panel, and a lens side The back end location of the above-mentioned lens and positioning of an outer panel are easy, there is neither vibration nor a location gap, and it aims at offering the attachment structure of a lamp with the sufficient appearance which makes small the clearance between a lens, the above-mentioned lens, and an outer panel open end, and the above-mentioned sealant cannot check by looking from outside.

[0010]

[Means for Solving the Problem] For this reason, the attachment structure of the lamp of this invention according to claim 1 The body of a lamp equipped with housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and the lens inserted in opening of this housing, Opening formed in the inner panel which countered said outer panel and was prepared in the method of the inside of a car, It is characterized by having the seal means established between the fixed part which is formed in the edge of this opening and supports said body of a lamp elastically, an attachment means to attach the above-mentioned body of a lamp in the above-mentioned fixed part and the periphery section of said lens, and the method side of the inside of a car of the opening periphery of said mounting hole.

[0011] The attachment structure of the lamp of this invention according to claim 2 The body of a lamp equipped with the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, It is characterized by having the seal means established between an attachment means to attach the above-mentioned body of a lamp in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car and the periphery section of the above-mentioned lens, and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole.

[0012] The attachment structure of the lamp of this invention according to claim 3 The body of a lamp equipped with

the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, Opening formed in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car, It is characterized by having the fixed part which is formed in the edge of this opening and supports said body of a lamp elastically, an attachment means to attach the above-mentioned body of a lamp in the above-mentioned fixed part, and the seal means established between the above-mentioned lens periphery section and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole.

[0013] Attachment structure of the lamp of this invention according to claim 4 is characterized by forming the above-mentioned fixed part supported elastically so that it may become the spring structure of both **** with the infeed which cooperated with the above-mentioned opening and the infeed prepared in abbreviation parallel along the edge of the above-mentioned opening, or consisted request spacing along with the above-mentioned opening, and was prepared in abbreviation parallel in the configuration according to claim 1 or 3.

[0014] Attachment structure of the lamp of this invention according to claim 5 is characterized by the above-mentioned fixed part being fabricated by said inner panel at one in the configuration given in either of claims 1, 3, and 4.

Attachment structure of the lamp of this invention according to claim 6 is characterized by equipping the above-mentioned fixed part with the elastic section which consists of the crevice or heights which is prepared in the both sides of the clamp face where said body of a lamp is fixed, and this clamp face, and regulates the fitting location of the above-mentioned body of a lamp in the configuration given in either of claims 1, 3, 4, and 5.

[0015] The attachment structure of the lamp of this invention according to claim 7 In the configuration of a publication, the above-mentioned fixed part equips either of claims 1, 3, 4, and 6 with the spring structure of both **. The support direction of the spring structure of both ** of a fixed part prepared in the both-ends side of the side which intersects the above-mentioned longitudinal direction axis is mutually characterized by being arranged so that a phase may be different at least for 90 abbreviation by the support direction of the spring structure of both **** of the above-mentioned fixed part prepared in the longitudinal direction both-ends side of the above-mentioned body of a lamp.

[0016] The attachment structure of the lamp of this invention according to claim 8 has the inner skin by which the opening periphery of the above-mentioned mounting hole was bent by the method of the vehicle interior of a room in a configuration according to claim 2 or 3, and it is characterized by forming the above-mentioned rib in the shape of [which contacts the both sides of the direction side apical surface of the vehicle interior of a room of this inner skin, and this inner skin] L character. The attachment structure of the lamp of this invention according to claim 9 has the lamp bracket which projected to the above-mentioned outer panel side, and was prepared in a configuration according to claim 1 to 6 from the inner frame on which the above-mentioned inner panel supports an outer panel, and this inner frame, and it is characterized by forming the above-mentioned fixed part in this lamp bracket.

[0017]

[Embodiment of the Invention] The case where the attachment structure of the lamp concerning the operation gestalt of this invention is applied to the high mounting stop lamp of the trunk lid of a car is explained about drawing 1 -13.

[0018] Drawing of longitudinal section in which drawing 1's showing the operation gestalt of this invention, and showing the same cross section as drawing 15 , The perspective view in which drawing 2 shows the simple substance of the body of a lamp with which the lamp housing and lens of drawing 1 were attached, The front view showing the fixed part which supports elastically with the insertion hole of the body of a lamp with which drawing 3 was formed in the inner panel, The front view showing the condition that drawing 4 arranged the body of a lamp in the inner panel of drawing 3 , The perspective view of the above-mentioned fixed part of the inner panel by which drawing 5 and drawing 6 fix the lamp bracket of T1 and T2 part of drawing 3 , The sectional view where drawing 7 meets the 7A-7A line of drawing 4 , the sectional view where drawing 8 meets the 8A-8A line of drawing 4 , the sectional view where drawing 9 meets the 9A-9A line of drawing 4 , The perspective view in which drawing 10 shows the body of a lamp with which it was equipped with drawing 8 and the sealant as which it is indicated in 11, the enlarged drawing in which drawing 11 shows the Y section of drawing 8 , the explanatory view showing the condition as drawing 7 which shows the application of the fixed part of an inner panel that drawing 12 is the same, and drawing 13 are the explanatory views showing other applications.

[0019] As shown in drawing 1 , the trunk lid 30 of the above-mentioned car is formed by the inner panel 32 and the

outer panel 34. The mounting hole 38 of the body 36 of a lamp formed in the rear face of this car of the outer panel 34 is formed. The pawl 48 of the leg 46 which has elastic force formed as shown in drawing 1 and 9 is stopped by the engagement hole 50 of housing 42, and the lens 41 with which the opening 44 of the housing 42 which contained the bulb 40, and this housing 42 was equipped with the above-mentioned body 36 of a lamp is fixed. [two or more]

[0020] The opening 52 which inserts the body 36 of a lamp formed in the inner panel 32 which countered the outer panel 34, consisted spacing and was prepared in the method of the vehicle interior of a room of this car as shown in drawing 3 is formed in one with the body 36 of a lamp shown in drawing 2 , and it is formed so that the body of a lamp except the lamp brackets 54 and 55 which made rigidity with little elasticity high can be inserted.

[0021] in order to support the body 36 of a lamp formed in the edge of the above-mentioned opening 52, as shown in drawing 3 -6, the above-mentioned lamp brackets 54 and 55 are equipped with the fixed parts 58 and 60 which have the clamp face 72 established in the attachment **** inner panel 32. As the lamp attachment means K to these fixed parts 58 and 60 was shown in drawing 3 -6, desired spacing is consisted along with the opening 52 of the inner panel 32, and the infeed 62 of request die length is formed.

[0022] Moreover, as shown in drawing 3 -6, in the case of this operation gestalt, the crookedness surface part 70 which goes to a bolthole 68 from a base 66 is crooked 3 times, the crookedness sides 70a and 70b are formed, and as for the clamp face 72, both ends are connected with the inner panel 32 through the crookedness surface part 70. Therefore, if a load joins a clamp face 72 perpendicularly, the elastic section 64 of the inner panel 32 which the crookedness surface part 70 carried out elastic deformation, and was estranged with above-mentioned opening 52 and infeed 62 will form the so-called spring structure of both **** that make a base 66 the longitudinal direction edge of this elastic section 64, and will support brackets 54 and 55 elastically by the fixed parts 58 and 60 which have a clamp face 72.

[0023] Moreover, the fixed parts 58 and 60 which attach the lamp bracket 54 of the body 36 of a lamp As shown in drawing 5 and 6, in the case of this operation gestalt, a crevice 74 is formed for the positioning means P, such as a crevice and heights, by crookedness side 70a of the both sides of a clamp face 72. Migration of the vertical direction of a bracket 54 is regulated like the arrow head which shows a fixed part 58 to drawing 4 , and, as for a fixed part 60, migration of the longitudinal direction of a bracket 55 is regulated. As a whole Since right and left of brackets 54 and 55 and the vertical direction are regulated, positioning of anchoring of the body 36 of a lamp is made.

[0024] In addition, before the body 36 of a lamp is attached in the above-mentioned bolthole 68, a bolt 89 is beforehand inserted from the outer panel 34 side, and it is welded to the inner panel 32. Moreover, as shown in drawing 1 , and 3 and 4, the rib 80 of the shape of L character formed in the above-mentioned lens path of insertion established in two or more places of the periphery of the insertion section of a lens 41 in this path of insertion or the surface part 76 which contacts flange 41a of a surface part 76 and a lens 41, and the surface part 78 which carries out abbreviation nonstop is formed in the above-mentioned two or more parts in one with the lens 41.

[0025] Moreover, as shown in drawing 1 and 8, the mounting hole 38 of the outer panel 34 is arranged so that opening edge 34b of a mounting hole 38 which is bent in the above-mentioned trunk indoor direction by back end ***** 35 of the outer panel 34, and has inner skin 38a may contact near the abbreviation rectangular cross part of the surface part 76 of a rib 80, and a surface part 78. it was shown in drawing 8 and 10 -- as -- an end -- flange 41a of a lens 41 -- and it is arranged between the surface part 78 of a rib 80, and flange 4b set up from the above-mentioned flange 41a, and the sealant 82 which is the seal means S formed with the soft rubber prepared so that the other end might be pressed in contact with the inside of the above-mentioned outer panel 34, synthetic resin, etc. is arranged in the shape of a ring along with the periphery of a lens 41.

[0026] In addition, drawing 10 and the sealant 82 shown in 11 are the things of free length, and when the above-mentioned anchoring is completed, a way is compressed and equipped with it among the outer panels 34 like the imaginary line M shown in drawing 11 . Since it consists of these operation gestalten as mentioned above, as shown in drawing 1 , a lens 41 is inserted in a lamp housing 42 from opening 44, and the pawl 48 of the leg is engaged and fixed to the hole 50 of a lamp housing 42.

[0027] Next, a sealant 82 so that flange 41a of the lens 41 between a rib 80 and flange 41b of a lens 41 can be equipped It turns to the opening 52 of the inner panel 32 shown in drawing 3 on a front face from the rear face of the space of drawing 3 . It fits into the crevice 74 which is the positioning means P of the fixed parts 58 and 60 which insert the body 36 of a lens shown in drawing 2 , insert the bolt through tubes 54a and 55a of lamp brackets 54 and 55 in the bolt 89 fixed to the inner panel 32, and have the operation of the above-mentioned elastic support by brackets 54 and 55. As shown in drawing 7 , it concludes with a nut 88 through the rubber packing 84.

[0028] If the nut 88 is screwed in the above, since the part which is the elastic section 64 of the inner panel 32 is formed in both ***** structure Since the clamp face 72 of the elastic section 64 shown in drawing 7 resists the elastic force of the elastic section 64 and can draw near to the location of W2 with a two-dot chain line from the location of a continuous line W1, The body 36 of a lamp acts in the outer panel 34 direction according to the reaction force of the above-mentioned spring, and the seal member 82 is made to press and compress into the inside of the outer panel 34, and it is made and attached.

[0029] Since the direction of reaction force of the spring of the above-mentioned elastic section 64 is in agreement with the path of insertion to the opening 52 of the inner panel 32 of the body 36 of a lamp, there is no generating of a gap at the time of the above-mentioned anchoring, and the above-mentioned attachment precision can be improved. . Moreover, since only the small tip of the surface part 76 of the rib 80 arranged partly exists in this clearance 38c while clearance 38c between a lens 41 and inner skin 38a of the mounting hole 38 of the outer panel 34 can form small as shown in drawing 11 since a lens 41 is arranged in the center of opening 52 and a mounting hole 38 with a rib 80 and, appearance improves.

[0030] Since a sealant 82 hides in inside 34a of the outer panel 34, and the surface part 78 of a rib 80 as shown in drawing 8 and 11, it disappears from the above-mentioned clearance 38c. Moreover, since a rib 80 consists of two-step ribs of surface parts 76 and 78, the back end location of a lens 41 and positioning of an outer panel are easy for it, and it does not shift.

[0031] Furthermore, since the rib 80 and the outer panel 34 which were prepared in the periphery of the above-mentioned lens 41 at two or more places, and were prepared in six places as shown in drawing 2 in the case of this operation gestalt only contact, and above-mentioned both contact surface is small, anchoring is poor and it is prevented that the outer panel 34 carries out distortion deformation. Although the crevice 74 was formed in the fixed parts 58 and 60 which attach the lamp brackets 54 and 55 of the body 36 of a lamp with the above-mentioned operation gestalt By forming heights 74a, as shown in drawing 12 , and making crevice 74b form the clamp face corresponding to heights 74a in the above-mentioned lamp brackets 54 and 55, if it fits in and joins together, these both Since the clamp face 72 of the elastic section shown in drawing 12 resists the elastic force of the elastic section and can draw near to the location of a continuous line W1 from the location of W2 with a two-dot chain line, The body 36 of a lamp acts in the outer panel 34 direction according to the reaction force of the above-mentioned spring, and the seal member 82 is made to press and compress into inside 34a of the outer panel 34, and it is made and attached.

[0032] Therefore, since right and left of lamp brackets 54 and 55 and the vertical direction are regulated like the above-mentioned operation gestalt, positioning of the above-mentioned attachment can be performed, and the same operation effectiveness as the above-mentioned operation gestalt can be done so. although the refracting interface section 70 was formed in the spring structure of both ***** as mentioned above and it has the 2nd page of refracting interfaces 70a and 70b, in order to take out the elasticity of fixed parts 58 and 60 with the above-mentioned operation gestalt -- an isometropia side -- the whole surface -- or what is necessary is just to prepare suitably according to a specification that there should just be two or more pages

[0033] Moreover, what consisted request spacing in the inner panel and prepared infeed is sufficient as fixed parts 58 and 60, and even if they establish a positioning means P to have engagement parts, such as a crevice and heights, into the spring part of both ***** with this infeed further, they can do so the same operation effectiveness as the above-mentioned operation gestalt. Moreover, other applications are explained about drawing 13 .

[0034] As shown in drawing 13 , when spacing with the outer panel 34 is large, the above-mentioned inner panel 32 The lamp bracket member 92 prepared so that the outer panel 34 prepared in the inner panel 32, one, or another object might be approached is arranged. Even if the above-mentioned fixed parts 58 and 60 form the same fixed parts 58 and 60 as the above-mentioned operation gestalt in the periphery of the opening 94 which inserts the body 36 of a lamp of the lamp bracket member 92, they can do so the same operation effectiveness as the above-mentioned operation gestalt.

[0035]

[Effect of the Invention] As explained in full detail above, according to the attachment structure of the lamp of this invention according to claim 1 The body of a lamp equipped with housing which was attached in the mounting hole and this mounting hole which were formed in the outer panel of a car from the method of the vehicle interior of a room, and contained the bulb, and the lens inserted in opening of this housing, Opening formed in the inner panel which countered said outer panel and was prepared in the method of the inside of a car, The fixed part which is formed in the

edge of this opening and supports said body of a lamp elastically, Since it has the seal means established between an attachment means to attach the above-mentioned body of a lamp in the above-mentioned fixed part and the periphery section of said lens, and the method side of the inside of a car of the opening periphery of said mounting hole If it resists and the above-mentioned body of a lamp is attached in a fixed part with the above-mentioned attachment means at the elastic force of the above-mentioned fixed part In order that this body of a lamp may be pressed in the above-mentioned outer panel direction according to the reaction force, it may be attached and the path of insertion to the above-mentioned mounting hole of the above-mentioned body of a lamp and the direction of the above-mentioned reaction force may carry out abbreviation coincidence, Generating of the gap at the time of the above-mentioned attachment and generating of deformation by the above-mentioned outer panel distortion are prevented, and since the above-mentioned lens comes to the center of the above-mentioned mounting hole, appearance improves.

[0036] The mounting hole which was formed in the outer panel of a car according to the attachment structure of the lamp of this invention according to claim 2, The body of a lamp equipped with the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in this mounting hole from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, Since it has the seal means established between an attachment means to attach the above-mentioned body of a lamp in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car and the periphery section of the above-mentioned lens, and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole While a lens is made by positioning in the center of the mounting hole of an outer panel with the above-mentioned rib and the clearance between the above-mentioned lens and the inner skin of a mounting hole can form small Since only the tip where a surface part parallel to the path of insertion of the above-mentioned body of a lamp is small can check by looking the rib partly arranged in the place at this spare time, appearance can be improved.

[0037] Moreover, since the above-mentioned sealant hides in the method side of the inside of a car of the opening periphery of the above-mentioned rib and the mounting hole of an outer panel and it disappears from the above-mentioned clearance, it can improve appearance further. The mounting hole which was formed in the outer panel of a car according to the attachment structure of the lamp of this invention according to claim 3, The body of a lamp equipped with the rib which is projected and prepared in the lens and this lens with which opening of housing which was attached in this mounting hole from the method of the vehicle interior of a room, and contained the bulb, and this housing was equipped at a periphery, and contacts the open end of the above-mentioned mounting hole, Opening formed in the inner panel which countered the above-mentioned outer panel and was prepared in the method of the inside of a car, The fixed part which is formed in the edge of this opening and supports said body of a lamp elastically, Since it has an attachment means to attach the above-mentioned body of a lamp in the above-mentioned fixed part, and the seal means established between the above-mentioned lens periphery section and the method side of the inside of a car of the opening periphery of the above-mentioned mounting hole If it resists and the above-mentioned body of a lamp is attached in a fixed part with the above-mentioned attachment means at the elastic force of the above-mentioned fixed part In order that this body of a lamp may be pressed in the above-mentioned outer panel direction according to the reaction force, it may be attached and the path of insertion to the above-mentioned mounting hole of the above-mentioned body of a lamp and the direction of the above-mentioned reaction force may carry out abbreviation coincidence, Generating of the gap at the time of the above-mentioned attachment and generating of deformation by the above-mentioned outer panel distortion are prevented, and since the above-mentioned lens comes to the center of the above-mentioned mounting hole, appearance improves.

[0038] Moreover, since only the tip where a surface part parallel to the path of insertion of the above-mentioned body of a lamp is small can check by looking the rib partly arranged in the place at this spare time while a lens is made by positioning in the center of the mounting hole of an outer panel with the above-mentioned rib and the clearance between the above-mentioned lens and the inner skin of a mounting hole can form small, appearance can be improved.

[0039] According to the attachment structure of the lamp of this invention according to claim 4, it sets in a configuration according to claim 1 or 3. Since the above-mentioned fixed part supported elastically is formed so that it may become the spring structure of both **** with the infeed which cooperated with the above-mentioned opening and the infeed prepared in abbreviation parallel along the edge of the above-mentioned opening, or consisted request spacing along with the above-mentioned opening, and was prepared in abbreviation parallel The fixed part which has elastic force simply can be formed in the opening periphery of the above-mentioned inner panel.

[0040] According to the attachment structure of the lamp of this invention according to claim 5, in a configuration given in either of claims 1, 3, and 4, since the above-mentioned fixed part is fabricated by said inner panel at one, the fixed part which has elastic force simply can be cheaply formed in the opening periphery of the above-mentioned inner panel, without using other components. According to the attachment structure of the lamp of this invention according to claim 6, it sets in a configuration given in either of claims 1, 3, 4, and 5. Since the above-mentioned fixed part is equipped with the elastic section which consists of the crevice or heights which is prepared in the both sides of the clamp face where said body of a lamp is fixed, and this clamp face, and regulates the fitting location of the above-mentioned body of a lamp Since an attaching position arrangement of the bracket of the above-mentioned body of a lamp can be performed easily, while being able to perform the above-mentioned anchoring simply, pin center, large doubling of the mounting hole of the above-mentioned outer panel and the above-mentioned lens improves, and appearance improves.

[0041] According to the attachment structure of the lamp of this invention according to claim 7, it sets in a configuration given in either of claims 1, 3, 4, and 6. The support direction of the spring structure of both **** of the above-mentioned fixed part where the above-mentioned fixed part is equipped with the spring structure of both ****, and is prepared in the longitudinal direction both-ends side of the above-mentioned body of a lamp Since at least 90 abbreviation is mutually arranged so that a phase may be different, the support direction of the spring structure of both ** of a fixed part prepared in the both-ends side of the side which intersects the above-mentioned longitudinal direction axis Mutually, since the support direction of the spring structure of both the above-mentioned ** arranged in the side which intersects the above-mentioned longitudinal direction axis the longitudinal direction both-ends side of the above-mentioned body of a lamp in the above-mentioned fixed part, it can carry out very easily [positioning to the mounting hole of the above-mentioned body of a lamp], so that a phase may be different at least for 90 abbreviation.

[0042] According to the attachment structure of the lamp of this invention according to claim 8, it sets in a configuration according to claim 2 or 3. Since the opening periphery of the above-mentioned mounting hole has the inner skin bent by the method of the vehicle interior of a room and the above-mentioned rib is formed in the shape of [which contacts the both sides of the direction side apical surface of the vehicle interior of a room of this inner skin, and this inner skin] L character By the surface part parallel to the path of insertion of the body of a lamp of the above-mentioned rib, this surface part, and the crossing surface part, it can carry out easy [of the positioning of the back end location of the above-mentioned lens, and an outer panel].

[0043] According to the attachment structure of the lamp of this invention according to claim 9, it sets in a configuration according to claim 1 to 6. The above-mentioned inner panel has the lamp bracket projected and prepared in the above-mentioned outer panel side from the inner frame which supports an outer panel, and this inner frame, and since the fixed part is formed in this lamp bracket, the above If it is prepared in the above-mentioned inner frame and the above-mentioned fixed part is arranged using a lamp bracket when spacing of the above-mentioned outer panel and an inner panel is longer than the die length of the above-mentioned path of insertion of the above-mentioned body of a lamp If it resists and the above-mentioned body of a lamp is attached in a fixed part with the above-mentioned attachment means at the elastic force of the above-mentioned fixed part Since this body of a lamp is pressed in the above-mentioned outer panel direction according to the reaction force, it is attached and the path of insertion to the above-mentioned mounting hole of the above-mentioned body of a lamp and the direction of the above-mentioned reaction force carry out abbreviation coincidence, generating of the gap at the time of the above-mentioned attachment and generating of deformation by the above-mentioned outer panel distortion can be prevented.

[Translation done.]

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is drawing of longitudinal section in which showing the operation gestalt of this invention and showing the same cross section as drawing 15 .

[Drawing 2] It is the perspective view showing the simple substance of the body of a lamp which attached the lamp housing and lens of drawing 1 .

[Drawing 3] It is the front view showing the insertion hole of the body of a lamp formed in the inner panel of drawing 1 , and the fixed part which supports this body of a lamp elastically.

[Drawing 4] It is the front view showing the condition of having arranged the body of a lamp on the inner panel of drawing 3 .

[Drawing 5] It is the perspective view of the above-mentioned fixed part of the elastic support of the above-mentioned inner panel which fixes the lamp bracket of the view T1 of drawing 3 .

[Drawing 6] It is the perspective view of the above-mentioned fixed part of the elastic support of the above-mentioned inner panel which fixes the lamp bracket of the view T2 of drawing 3 .

[Drawing 7] It is the sectional view which meets the 7A-7A line of drawing 4 .

[Drawing 8] It is the sectional view which meets the 8A-8A line of drawing 4 .

[Drawing 9] It is the sectional view which meets the 9A-9A line of drawing 4 .

[Drawing 10] It is the perspective view showing the body of a lamp with which it was equipped with drawing 8 and the sealant shown in 11.

[Drawing 11] It is the enlarged drawing showing the Y section of drawing 8 .

[Drawing 12] It is the explanatory view showing the same condition as drawing 7 which shows the application of the above-mentioned fixed part of drawing 1 .

[Drawing 13] It is the explanatory view showing the application of others of the above-mentioned fixed part of drawing 1 .

[Drawing 14] It is the perspective view showing the back of the passenger car of the conventional example.

[Drawing 15] It is the sectional view which meets the 15A-15A line of drawing 14 .

[Drawing 16] It is the perspective view showing ***** of the lamp equipment of drawing 14 .

[Description of Notations]

30 Trunk Lid

32 Inner Panel

34 Outer Panel

34a Outer back of panel

36 Body of Lamp

38 Mounting Hole

40 Bulb

41 Lens

42 Housing

44 Opening

46 Leg

48 Pawl

50 Engagement Hole
52 Opening
54 Lamp Bracket
54a Through tube
55 Lamp Bracket
55a Through tube
58 Fixed Part
60 Fixed Part
62 Infeed
64 Elastic Section
66 Longitudinal Direction Edge
68 Bolthole
70 Crookedness Surface Part
70a Crookedness side
70b Crookedness side
72 Clamp Face
74 Crevice
76 Surface Part
78 Surface Part
80 Rib
82 Sealant
88 Nut
89 Bolt
92 Lamp Bracket
94 Opening
K Attachment means
P Positioning means
S Seal means

[Translation done.]

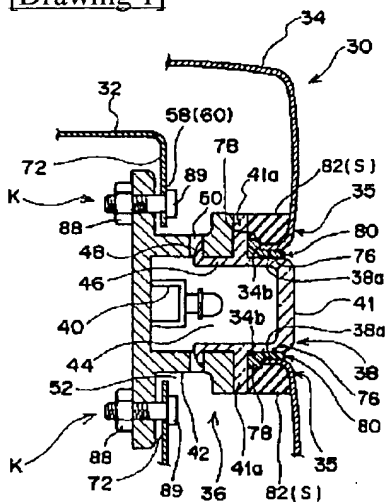
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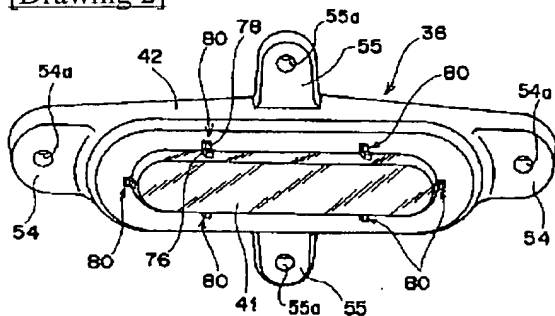
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DRAWINGS

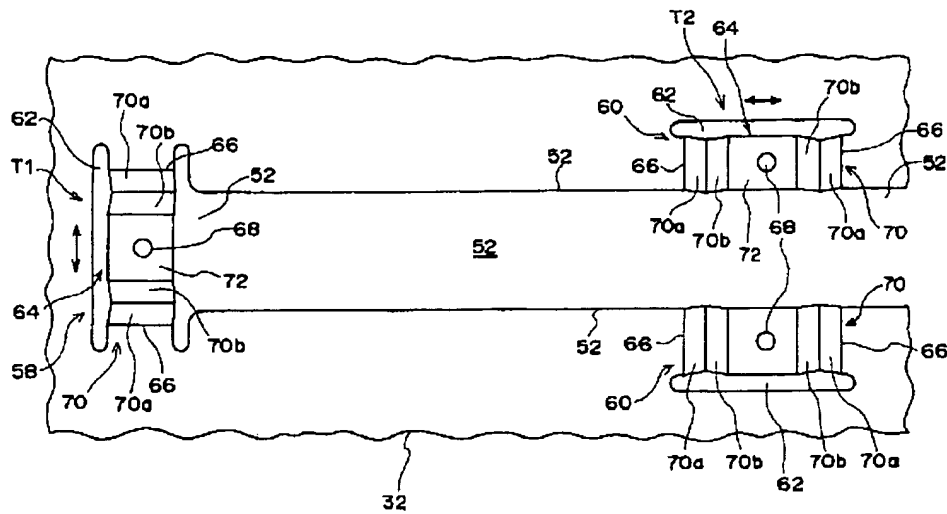
[Drawing 1]



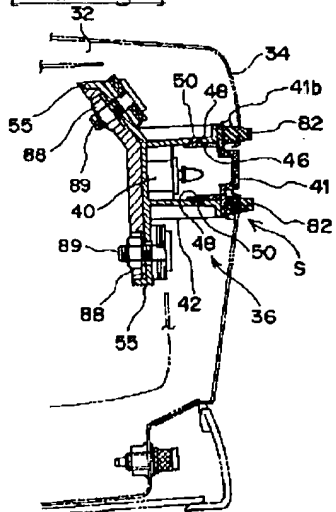
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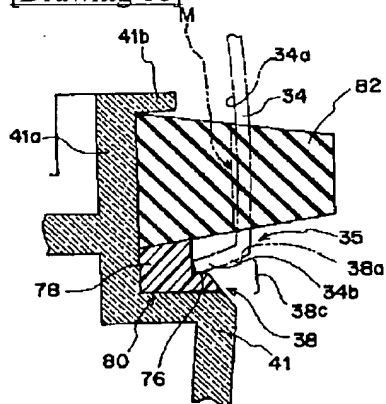
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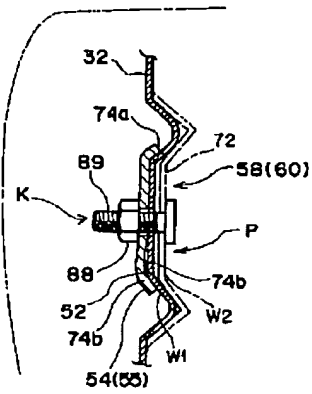
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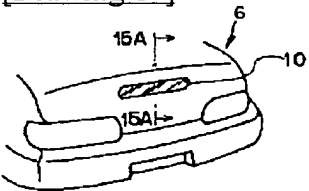
[Drawing 11]



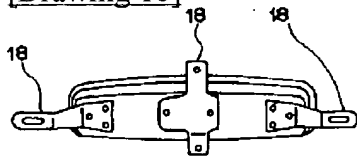
[Drawing 12]



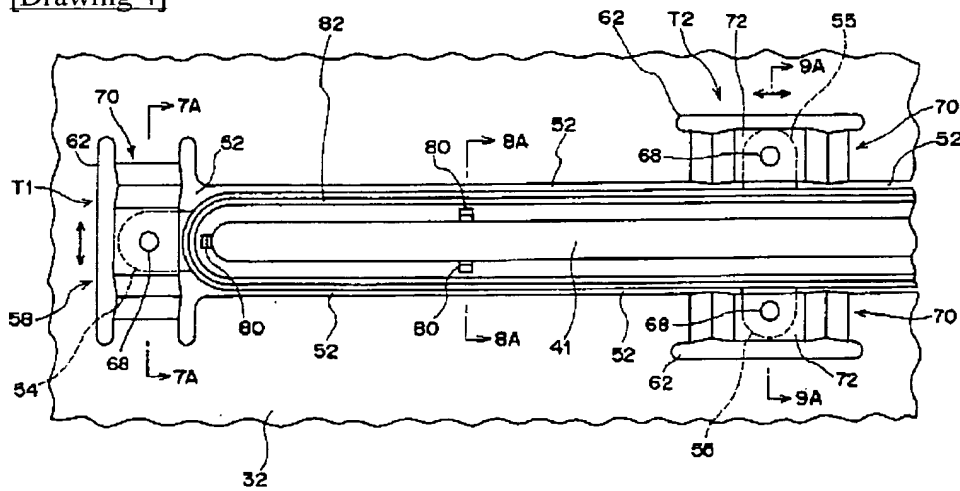
[Drawing 14]



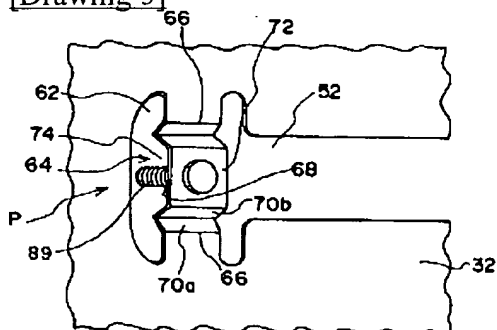
[Drawing 16]



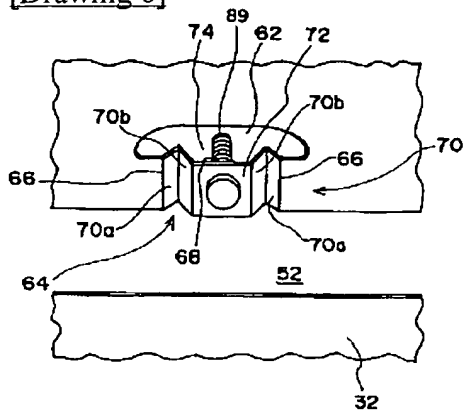
[Drawing 4]



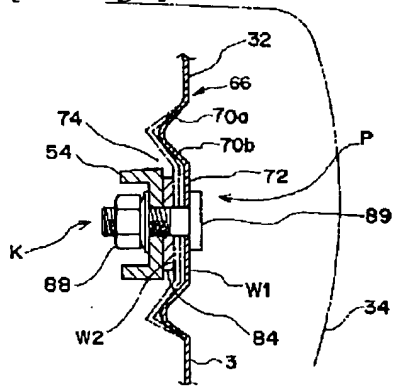
[Drawing 5]



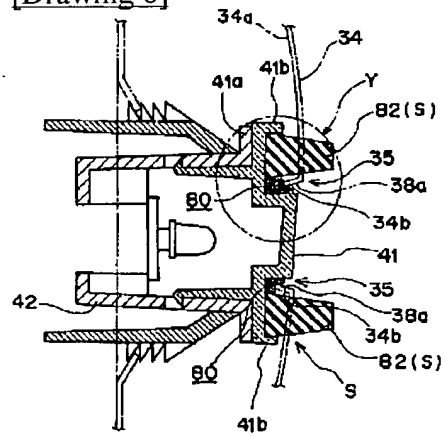
[Drawing 6]



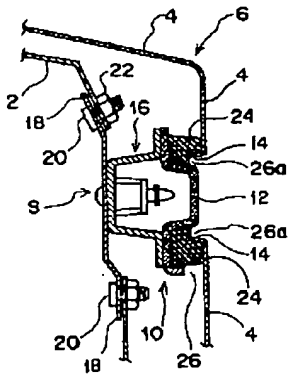
[Drawing 7]



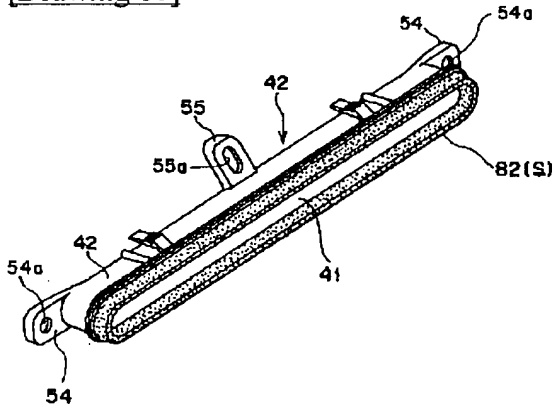
[Drawing 8]



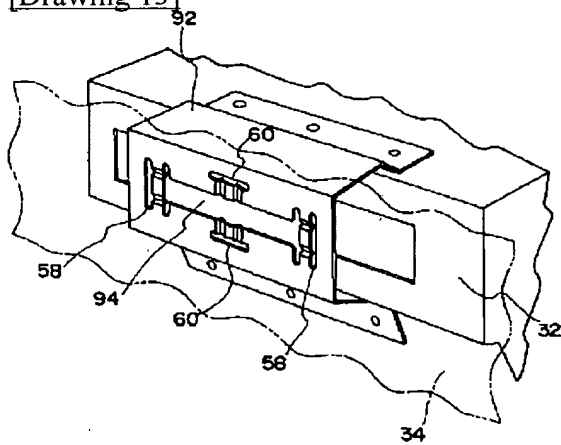
[Drawing 15]



[Drawing 10]



[Drawing 13]



[Translation done.]

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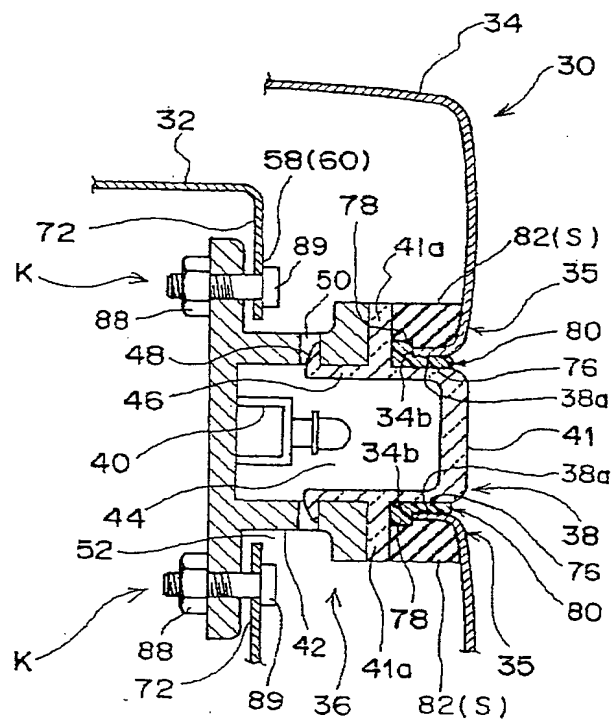
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(54) 【発明の名称】 ランプの取付構造

(57) 【要約】

【課題】 ランプの取付構造に関し、車両のインナパネルとアウトパネルからなる車体に取り付けられる、ハイマウントストップランプ、ストップランプ、バックランプ、車幅ランプ、ウインカランプ等のランプ取付け部位のシール性と見栄えを向上する。

【解決手段】 車両のアウトパネル34の取付孔38と、取付孔38に車室内方から取付けられるランプ本体36と、アウトパネル34に対向して上記車室内方に設けられたインナパネル32に形成された開口52と、開口52の縁部に形成されランプ本体36を弾性的に支持する固定部58、60と、上記のランプ本体36を固定部58、60に装着する取付手段Kと、上記ランプ本体36に装着されるレンズ41の周縁部と取付孔38の開口周縁の車両内方側との間に設けられたシール手段Sとから形成する。



【特許請求の範囲】

【請求項 1】 車両のアウタパネルに形成された取付孔、

同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に挿着されたレンズとを備えるランプ本体、

上記アウタパネルに対向して車両内方に設けられたインナパネルに形成された開口、

同開口の縁部に形成され上記ランプ本体を弾性的に支持する固定部、

上記のランプ本体を上部固定部に取付ける取付手段、及び上記レンズの周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えていることを特徴とする、ランプの取付構造。

【請求項 2】 車両のアウタパネルに形成された取付孔、

同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリブとを備えるランプ本体、

上記アウタパネルに対向して車両内方に設けられたインナパネルに上記ランプ本体を取付ける取付手段、及び上記レンズの周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えていることを特徴とする、ランプの取付構造。

【請求項 3】 車両のアウタパネルに形成された取付孔、

同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリブとを備えるランプ本体、

上記アウタパネルに対向して車両内方に設けられたインナパネルに形成された開口、

同開口の縁部に形成され前記ランプ本体を弾性的に支持する固定部、

上記のランプ本体を上記固定部に取付ける取付手段、及び上記レンズ周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えていることを特徴とする、ランプの取付構造。

【請求項 4】 上記の弾性的に支持する固定部は上記の開口の縁部に沿って上記開口と略平行に設けられた切込みと協働するか又は上記開口に沿って所望間隔を存し略平行に設けられた切込みにより両持ちのばね構造となるように形成されていることを特徴とする、請求項 1 又は 3 記載のランプの取付構造。

【請求項 5】 上記固定部は前記インナパネルに一体に形成されていることを特徴とする、請求項 1, 3, 4 のいずれかに記載のランプの取付構造。

【請求項 6】 上記固定部は前記ランプ本体が固定される取付面と同取付面の両側に設けられ上記ランプ本体の

取付け位置を規制する凹部又は凸部からなる弾性部を備えていることを特徴とする、請求項 1, 3, 4, 5 のいずれかに記載のランプの取付構造。

【請求項 7】 上記固定部が両持ちのばね構造を備え、上記ランプ本体の長手方向両端側に設けられる上記固定部の両持ちのばね構造の支持方向は、上記長手方向軸線と交差する側の両端側に設けられる固定部の両持ちのばね構造の支持方向とは互いに略 90 度位相が相違するように配設されていることを特徴とする、請求項 1, 3,

4, 6 のいずれかに記載のランプの取付構造。

【請求項 8】 上記取付孔の開口周縁は車室内方に折り曲げられた内周面を有し、上記リブは同内周面の車室内方向側先端面と同内周面の双方に当接する L 字状に形成されていることを特徴とする、請求項 2 又は 3 記載のランプの取付構造。

【請求項 9】 上記のインナパネルはアウタパネルを支持するインナフレームと同インナフレームから上記アウタパネル側に突出して設けられたランプブラケットを有し、上記固定部は同ランプブラケットに形成されていることを特徴とする、請求項 1～6 のいずれかに記載のランプの取付構造。

【発明の詳細な説明】

【0001】

【発明の属する技術分野】本発明は、自動車、電車等の車両のインナパネルとアウタパネルからなる車体に取り付けられる、ハイマウントストップランプ、ストップランプ、バックランプ、車巾ランプ、ウインカランプ等のランプの取付構造に関する。

【0002】

【従来の技術】周知のように、上記のランプの取付構造は種々の構造が実車に採用され、且つ提案されている。上記従来例の、例えばハイマウントストップランプについて、乗用車の後方斜視を示す図 14、同図 14 の 15A-15A 線に沿う断面を示す図 15、図 14 のランプ装置の裏面視を示す図 16 により説明する。

【0003】上記ハイマウントストップランプ装置は、車両後部の路面から高い位置、例えばトランクリッドの背面や車室内のリヤシェルフの上又は天井の下面等の後方車両から視認性のよい部位に設けられ、車両のブレーキ操作がされたかどうかを後方車両に確認し易くなるため、最近では多くの車両に取り付けられている。例えば、図 14～16 に示したように上記車両のインナパネル 2 とアウタパネル 4 とからなるトランクリッド 6 の背面にハイマウントストップランプ装置 10 を取付ける場合、ランプハウジング 16 に装着されたレンズ 12 をアウタパネル 4 の開口 14 に挿入して露出させ、ランプ本体 16 はランプブラケット 18 によりインナパネル 2 に固定しているが、レンズ 12 が直接アウタパネル 4 に接触している場合、ボルト 20、ナット 22 によりインナパネル 2 に固定するときに締めすぎると、レンズ 12 及びア

ウタパネル 4 の当たりが強くなってアウタパネル 4 に歪が発生する。

【0004】これを解消するため、従来はアウタパネル 4 の開口 14 をレンズ 12 の挿入部の外形より大きくして開口 14 とレンズ 12 の全周との間の隙間 26、26a にスポンジ、ゴムなどシール材 24 を配して、レンズ 12 が直接アウタパネル 4 に接触するのを防止している。更に、ブラケット 18 を弾性部材で構成してランプ本体 10 をインナパネル 2 に弾性支持することによって歪みにくくしているものもある。

【0005】又、上記のような従来例としては、特開平 7-81480 号公報、実開平 7-18979 号公報等があるが、上記従来例のようにランプ本体に固定された板材で形成された複数個所の弾性取付ブラケット 18 をインナパネル 2 の開口周縁部にボルト 20 で締結すると共に、アウタパネル 4 の開口 14 をレンズ 12 の挿入部の外形より大きくして、上記アウタパネルの開口とレンズ 12 の全周との間の隙間 26、26a にシール材 24 又は同レンズより柔らかいプロテクタを配設し、レンズ 12 が直接アウタパネル 4 に接触しないようにしたものである。

【0006】

【発明が解決しようとする課題】しかしながら、上記のいずれの従来例の取付構造も、例えば図 14~16 について説明すると、上記したように、レンズ 12 を挿入して同車両の後方側に露出させるためのアウタパネル 4 の開口 14 をレンズ 12 の挿入部の外形より大きくして、その上記の開口 14 とレンズ 12 の全周との間の隙間 26、26a にスポンジ、ゴム等のシール材 24 やプロテクタが配設されるため、シール材 24 やプロテクタが後方から見えるので見栄えが悪く経年変化によりシール材 24 が劣化してくるとレンズ 12 の取付け位置がずれてレンズ 12 が傾いたり、シール部分に隙間ができて水や埃が図示しないトランクルーム内に進入する等の不具合が発生する。

【0007】又、弾性取付ブラケット 18 を弾性部材にしたものでは、取付け時に弾性部材の反力がランプの挿入方向とずれてしまったり、弾性取付ブラケット 18 自体に弾性特性をもたせなくてはならないため、薄く、細く剛性の弱いブラケット 18 になってしまう。そのため、走行中の振動などでランプ本体 16 が振動したり、位置ずれが発生しレンズ 12 がアウタパネル 4 に接触することがあるため、シール材 24 やプロテクタを廃止することができない。

【0008】従って、上記で説明したいずれの従来例の取付構造では、上記のランプ本体 16 に固定される弾性取付ブラケット 18 に、例えば高価なバネ材等の弾性材を用いる必要があり、しかも複数個必要なため、上記ランプ装置のコストが増大してしまう。又、弾性取付ブラケット 18 の弾性力でシール材 24 であるスポンジゴム

を挟圧し、シールしているため、上記インナ及びアウタのパネル 2、4 の下組立の精度を見込んだ弾性取付ブラケット 18 の形状が必要であり、弾性取付ブラケット 18 がランプ本体 16 のトランク室内側面に設けられた突起に嵌合されたり、或いはネジ等で取付けられているため、弾性取付ブラケット 18 のランプ本体 16 への取付け誤差が生じ、この精度を確保することが非常に難しく、従ってこの製造コストが増大してしまい、又、上記した精度の見込みを間違うと、同ランプ装置の各部品

10 組立寸法がくるい、水、埃等が浸入する等の不具合が発生する恐れがある。

【0009】又、上記したように、アウタパネル 4 の開口 14 の端部とレンズ 12 との間に、図 15 に示したようにシール材 24 を単に挟持せしめているので、アウタパネル 4 の開口 14 に対するレンズ 12 の位置が決まりにくく、従って上記のような不具合等が発生する恐れがあり、上記ランプ装置の取付けに工数がかかる。本発明は、このような課題に鑑み創案されたもので、ランプハウジングと一体的で剛性を高くして形成されたランプブラケットを、ランプ本体が挿入されるインナパネルの開口の周縁部の同インナパネル側に設けられた弾性特性のある弾性部に固定せしめ、一方、ランプ装置のレンズの挿入部の外周に、レンズ挿入方向に延びる面部と、同面部と交差する方向に延びると共に同面部と一体的に形成された面部を有する複数個のリブを備え、シール材をアウタパネルの内側面とレンズ面の間に設けることにより、上記レンズの後端位置とアウタパネルの位置決めが容易で、振動や位置ずれがなく、レンズと上記のレンズとアウタパネル開口端部との隙間を小さくし上記シール材が外から視認できない見栄えのよいランプの取付構造を提供することを目的とする。

【0010】

【課題を解決するための手段】このため、請求項 1 記載の本発明のランプの取付構造は、車両のアウタパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に挿着されたレンズとを備えるランプ本体、前記アウタパネルに対向して車両内方に設けられたインナパネルに形成された開口、同開口の縁部に形成され前記ランプ本体を弾性的に支持する固定部、上記のランプ本体を上記固定部に取付ける取付手段、及び前記レンズの周縁部と前記取付孔の開口周縁の車両内方側との間に設けられたシール手段とを備えていることを特徴としている。

【0011】請求項 2 記載の本発明のランプの取付構造は、車両のアウタパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリブとを備えるランプ本体、上記アウタパネルに対向して車両内方に設けられたインナパネルに上記ランプ本

体を取付ける取付手段、及び上記レンズの周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えていることを特徴としている。

【0012】請求項3記載の本発明のランプの取付構造は、車両のアウトパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリップとを備えるランプ本体、上記アウトパネルに対向して車両内方に設けられたインナパネルに形成された開口、同開口の縁部に形成され前記ランプ本体を弾力的に支持する固定部、上記のランプ本体を上記固定部に取付ける取付手段、及び上記レンズ周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えていることを特徴としている。

【0013】請求項4記載の本発明のランプの取付構造は、請求項1又は3記載の構成において、上記の弾力的に支持する固定部は上記の開口の縁部に沿って上記開口と略平行に設けられた切込みと協働するか又は上記開口に沿って所望間隔を存し略平行に設けられた切込みにより両持ちのばね構造となるように形成されていることを特徴としている。

【0014】請求項5記載の本発明のランプの取付構造は、請求項1, 3, 4のいずれかに記載の構成において、上記固定部は前記インナパネルに一体に形成されていることを特徴としている。請求項6記載の本発明のランプの取付構造は、請求項1, 3, 4, 5のいずれかに記載の構成において、上記固定部は前記ランプ本体が固定される取付面と同取付面の両側に設けられ上記ランプ本体の取付け位置を規制する凹部又は凸部からなる弾性部を備えていることを特徴としている。

【0015】請求項7記載の本発明のランプの取付構造は、請求項1, 3, 4, 6のいずれかに記載の構成において、上記固定部が両持ちのばね構造を備え、上記ランプ本体の長手方向両端側に設けられる上記固定部の両持ちのばね構造の支持方向は、上記長手方向軸線と交差する側の両端側に設けられる固定部の両持ちのばね構造の支持方向とは互いに略90度位相が相違するように配設されていることを特徴としている。

【0016】請求項8記載の本発明のランプの取付構造は、請求項2又は3記載の構成において、上記取付孔の開口周縁は車室内方に折り曲げられた内周面を有し、上記リップは同内周面の車室内方向側先端面と同内周面の双方に当接するL字状に形成されていることを特徴としている。請求項9記載の本発明のランプの取付構造は、請求項1～6のいずれかに記載の構成において、上記のインナパネルはアウトパネルを支持するインナフレームと同インナフレームから上記アウトパネル側に突出して設けられたランプブラケットを有し、上記固定部は同ランプブラケットに形成されていることを特徴としている。

【0017】

【発明の実施の形態】本発明の実施形態にかかるランプの取付構造を車両のトランクリッドのハイマウントストップランプに適用した場合を図1～13について説明する。

【0018】図1は本発明の実施形態を示すもので図15と同様の断面を示す縦断面図、図2は図1のランプハウジングとレンズを組付けたランプ本体の単体を示す斜視図、図3はインナパネルに形成されたランプ本体の挿入孔と弾力的に支持する固定部を示す正面図、図4は図3のインナパネルにランプ本体を配設した状態を示す正面図、図5及び図6は図3のT1及びT2部分のランプブラケットを固定するインナパネルの上記固定部の斜視図、図7は図4の7A-7A線に沿う断面図、図8は図4の8A-8A線に沿う断面図、図9は図4の9A-9A線に沿う断面図、図10は図8、11に示すシール材が装着されたランプ本体を示す斜視図、図11は図8のY部を示す拡大図、図12はインナパネルの固定部の応用例を示す図7と同様の状態を示す説明図、図13はその他の応用例を示す説明図である。

【0019】図1に示したように、上記車両のトランクリッド30はインナパネル32とアウトパネル34で形成されている。アウトパネル34の同車両の後面に形成されたランプ本体36の取付孔38が設けられている。上記のランプ本体36はバルブ40を収納したハウジング42とこのハウジング42の開口44に装着されたレンズ41は、図1, 9に示したように複数個設けられた、弾性力を有する脚部46の爪48がハウジング42に係合孔50に係止され固定されるようになっている。

【0020】図3に示したように、アウトパネル34に対向して間隔を存して同車両の車室内方に設けられたインナパネル32に形成されたランプ本体36を挿入する開口52は、図2に示したランプ本体36と一体的に形成され、弾性特性の少ない剛性を高くしたランプブラケット54, 55を除いたランプ本体が挿入できるように形成されている。

【0021】上記の開口52の縁部に形成されたランプ本体36を支持するために、図3～6に示したように上記ランプブラケット54, 55が取付けられるインナパネル32に設けられた取付面72を有する固定部58, 60を備えている。この固定部58, 60へのランプ取付手段Kは、図3～6に示したようにインナパネル32の開口52に沿って所望の間隔を存し且つ所望長さの切込み62が設けられている。

【0022】又、図3～6に示したように基部66からボルト孔68に向かう屈曲面部70を、本実施形態の場合は3回屈曲して屈曲面70a, 70bを形成し、取付面72は両端を屈曲面部70を介してインナパネル32へ連結されている。従って、取付面72に垂直方向に荷重が加わると屈曲面部70が弾性変形するようになって

おり、上記の開口52と切込み62により離間されたインナパネル32の弾性部64は、同弾性部64の長手方向端部を基部66とするいわゆる両持ちのばね構造を形成し、取付面72を有する固定部58、60により弾性的にブラケット54、55を支持するようになっている。

【0023】又、ランプ本体36のランプブラケット54を取付ける固定部58、60は、図5、6に示したように取付面72の両側の屈曲面70aにより凹部、凸部等の位置決め手段Pを本実施形態の場合は凹部74を形成し、固定部58は図4に示す矢印のようにブラケット54の上下方向の移動が規制され、固定部60はブラケット55の左右方向の移動が規制され全体として、ブラケット54、55の左右、上下方向が規制されるためランプ本体36の取付けの位置決めがなされるものである。

【0024】尚、上記のボルト孔68にランプ本体36が取付けられる前に予めボルト89がアウトパネル34側から挿入されインナパネル32に溶接されている。

又、図1、3、4に示したように、レンズ41の挿入部の外周の複数箇所に設けられた、上記のレンズ挿入方向に面部76とレンズ41のフランジ41aに当接する同挿入方向若しくは面部76と略直行する面部78で形成されるL字状のリブ80が上記複数箇所にレンズ41と一体的に設けられている。

【0025】又、図1、8に示したように、アウトパネル34の取付孔38はアウトパネル34の後端曲接部35で上記トランク室内方向に曲げられ内周面38aを有する取付孔38の開口端34bが、リブ80の面部76と面部78との略直交部分の近傍に当接するように配設されている。図8、10に示したように一端がレンズ41のフランジ41aに且つリブ80の面部78と上記のフランジ41aより立設されたフランジ4bとの間に配設され、他端が上記アウトパネル34の内側に当接し押圧されるように設けられた軟質ゴム、合成樹脂等で形成されるシール手段Sであるシール材82がレンズ41の外周に沿ってリング状に配設されている。

【0026】尚、図10、11に示したシール材82は自由長のものであり上記取付けが完了した時点では、図11に示す仮想線Mのようにアウトパネル34の内方に圧縮されて装着されるものである。本実施形態では上記のように構成されているので、図1に示したようにランプハウジング42にレンズ41が開口44から挿入されて脚部の爪48をランプハウジング42の孔50に係合して固定する。

【0027】次にシール材82を、リブ80とレンズ41のフランジ41bとの間のレンズ41のフランジ41aに装着できるように、図3に示したインナパネル32の開口52に、図3の紙面の裏面から表面に向けて、図2に示したレンズ本体36を挿入し、ランプブラケット

54、55のボルト貫通孔54a、55aをインナパネル32に固定されたボルト89に挿入しブラケット54、55を上記弾性支持の作用のある固定部58、60の位置決め手段Pである凹部74に嵌合して、図7に示したようにラバーパッキン84を介してナット88により締結する。

【0028】上記においてナット88を螺合していくと、インナパネル32の弾性部64である部位が両持ちばね構造に形成されているので、図7に示した弾性部64の取付面72が実線W1の位置から二点鎖線でW2の位置に弾性部64の弾性力に抗して引き寄せられるため、上記のばねの反力によりランプ本体36がアウトパネル34方向に作用し、シール部材82をアウトパネル34の内面に押圧、圧縮せしめるようにして取付けられる。

【0029】上記の弾性部64のばねの反力方向がランプ本体36のインナパネル32の開口52への挿入方向と一致するため、上記取付け時にずれの発生がなく、上記取付精度を向上することができる。又、リブ80によりレンズ41が開口52及び取付孔38のセンタに配設されるため、且つ図11に示したようにレンズ41とアウトパネル34の取付孔38の内周面38aとの間の隙間38cが小さく形成することができると共に、この隙間38cには数個配設されたリブ80の面部76の小さな先端しか存在しないので、見栄えが向上する。

【0030】シール材82は図8、11に示したようにアウトパネル34の内面34aとリブ80の面部78内にかくれてしまうので上記の隙間38cからは見えなくなる。又、リブ80は面部76、78の2段リブで構成されるため、レンズ41の後端位置とアウトパネルの位置決めが容易でずれない。

【0031】更に、上記のレンズ41の外周に複数箇所に設けられ、本実施形態の場合は、図2に示したように6箇所に設けられたリブ80とアウトパネル34とが当接するだけなので、上記両者の接触面が小さいため取付け不良でアウトパネル34が歪み変形することが防止される。上記実施形態ではランプ本体36のランプブラケット54、55を取付ける固定部58、60に凹部74を形成したが、図12に示したように凸部74aを形成し、上記のランプブラケット54、55に、凸部74aに対応する取付面を凹部74bを形成せしめこの両者を嵌合して結合すれば、図12に示した弾性部の取付面72が二点鎖線でW2の位置から実線W1の位置に弾性部の弾性力に抗して引き寄せられるため、上記のばねの反力によりランプ本体36がアウトパネル34方向に作用し、シール部材82をアウトパネル34の内面34aに押圧、圧縮せしめるようにして取付けられる。

【0032】従って、上記実施形態のようにランプブラケット54、55の左右、上下方向が規制されるので上記取付の位置決めができ、上記実施形態と同様の作用効果を奏することができる。上記実施形態では固定部5

8, 60の弾性特性を出すため、上記のように両持ちのばね構造に屈折面部70を設け、屈折面70a, 70bの2面を備えているが、同屈折面は一面乃至複数面あればよく、仕様に応じて適宜設ければよい。

【0033】又、固定部58, 60はインナパネルに所望間隔を存して切込みを設けたものでもよく、更にこの切込みによって両持ちのばね部分に凹部、凸部等のような係合部分を有する位置決め手段Pを設けても、上記実施形態と同様の作用効果を奏することができる。又、その他の応用例を、図13について説明する。

【0034】図13に示したように上記インナパネル32はアウトパネル34との間隔が広い場合には、インナパネル32と一体又は別体に設けられたアウトパネル34に近づくように設けられたランプブラケット部材92を配設し、上記の固定部58, 60はランプブラケット部材92のランプ本体36を挿入する開口94の周縁に上記実施形態と同様の固定部58, 60を設けても上記実施形態と同様の作用効果を奏することができる。

【0035】

【発明の効果】以上詳述したように、請求項1記載の本発明のランプの取付構造によれば、車両のアウトパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に挿着されたレンズとを備えるランプ本体、前記アウトパネルに対向して車両内方に設けられたインナパネルに形成された開口、同開口の縁部に形成され前記ランプ本体を弾性的に支持する固定部、上記のランプ本体を上記固定部に取付ける取付手段、及び前記レンズの周縁部と前記取付孔の開口周縁の車両内方側との間に設けられたシール手段とを備えているので、上記取付手段により上記のランプ本体を固定部に上記の固定部の弾性力に抗して取付けると、その反力により同ランプ本体が上記アウトパネル方向に押圧されて取付けられ、上記ランプ本体の上記取付孔への挿入方向と上記反力の方向が略一致するため、上記取付時のずれの発生や上記アウトパネル歪みによる変形の発生が防止され、上記レンズが上記取付孔のセンタにくるため見栄えが向上する。

【0036】請求項2記載の本発明のランプの取付構造によれば、車両のアウトパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリブとを備えるランプ本体、上記アウトパネルに対向して車両内方に設けられたインナパネルに上記ランプ本体を取付ける取付手段、及び上記レンズの周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えているので、上記のリブによりレンズがアウトパネルの取付孔のセンタに位置決めができ、且つ上記のレンズと取付孔の内周面との間の隙間が小さく形成できると共に、この隙には数個所に配

設されたリブを、上記ランプ本体の挿入方向に平行な面部の小さな先端しか視認できないので、見栄えを向上することができる。

【0037】又、上記シール材は上記のリブとアウトパネルの取付孔の開口周縁の車両内方側にかくれてしまうので上記の隙間から見えなくなるのでさらに見栄えを向上することができる。請求項3記載の本発明のランプの取付構造によれば、車両のアウトパネルに形成された取付孔、同取付孔に車室内方から取付けられバルブを収納したハウジングと同ハウジングの開口に装着されたレンズと同レンズに外周に突出して設けられ上記取付孔の開口端部に当接するリブとを備えるランプ本体、上記アウトパネルに対向して車両内方に設けられたインナパネルに形成された開口、同開口の縁部に形成され前記ランプ本体を弾性的に支持する固定部、上記のランプ本体を上記固定部に取付ける取付手段、及び上記レンズ周縁部と上記取付孔の開口周縁の車両内方側との間に設けられたシール手段を備えているので、上記取付手段により上記のランプ本体を固定部に上記の固定部の弾性力に抗して取付けると、その反力により同ランプ本体が上記アウトパネル方向に押圧されて取付けられ、上記ランプ本体の上記取付孔への挿入方向と上記反力の方向が略一致するため、上記取付時のずれの発生や上記アウトパネル歪みによる変形の発生が防止され、上記レンズが上記取付孔のセンタにくるため見栄えが向上する。

【0038】又、上記のリブによりレンズがアウトパネルの取付孔のセンタに位置決めができ、且つ上記のレンズと取付孔の内周面との間の隙間が小さく形成できると共に、この隙には数個所に配設されたリブを、上記ランプ本体の挿入方向に平行な面部の小さな先端しか視認できないので、見栄えを向上することができる。

【0039】請求項4記載の本発明のランプの取付構造によれば、請求項1又は3記載の構成において、上記の弾性的に支持する固定部は上記の開口の縁部に沿って上記開口と略平行に設けられた切込みと協働するか又は上記開口に沿って所望間隔を存し略平行に設けられた切込みにより両持ちのばね構造となるように形成されているので、簡単に弾性力のある固定部を上記インナパネルの開口周縁に形成することができる。

【0040】請求項5記載の本発明のランプの取付構造によれば、請求項1, 3, 4のいずれかに記載の構成において、上記固定部は前記インナパネルに一体に成形されているので、他の部品を使用することなく簡単に弾性力のある固定部を安価に、上記インナパネルの開口周縁に形成することができる。請求項6記載の本発明のランプの取付構造によれば、請求項1, 3, 4, 5のいずれかに記載の構成において、上記固定部は前記ランプ本体が固定される取付面と同取付面の両側に設けられ上記ランプ本体の取付け位置を規制する凹部又は凸部からなる

弾性部を備えているので、上記ランプ本体のブラケットの取付位置決めが容易にできるため、上記取付けが簡単にできると共に、上記のアウトパネルの取付孔と上記レンズとのセンター合わせが向上し見栄えが向上する。

【0041】請求項7記載の本発明のランプの取付構造によれば、請求項1, 3, 4, 6のいずれかに記載の構成において、上記固定部が両持ちのばね構造を備え、上記ランプ本体の長手方向両端側に設けられる上記固定部の両持ちのばね構造の支持方向は、上記長手方向軸線と交差する側の両端側に設けられる固定部の両持ちのばね構造の支持方向とは互いに略90度位相が相違するように配設されているので、上記両持ちのばね構造の支持方向が互いに略90度位相が相違するように上記固定部を上記ランプ本体の長手方向両端側と上記長手方向軸線と交差する側とに配設したため、上記のランプ本体の取付孔に対する位置決めが極めて簡単に行うことができる。

【0042】請求項8記載の本発明のランプの取付構造によれば、請求項2又は3記載の構成において、上記取付孔の開口周縁は車室内方に折り曲げられた内周面を有し、上記リップは同内周面の車室内方向側先端面と同内周面の双方に当接するL字状に形成されているので、上記リップのランプ本体の挿入方向に平行な面部と同面部と交差する面部とにより、上記レンズの後端位置とアウトパネルの位置決めが容易できる。

【0043】請求項9記載の本発明のランプの取付構造によれば、請求項1～6のいずれかに記載の構成において、上記のインナパネルはアウトパネルを支持するインナフレームと同インナフレームから上記アウトパネル側に突出して設けられたランプブラケットを有し、上記は固定部は同ランプブラケットに形成されているので、上記アウトパネルとインナパネルとの間隔が上記ランプ本体の上記挿入方向の長さより長い場合に上記インナフレームに設けられランプブラケットを使用して上記固定部を配設すれば、上記取付手段により上記のランプ本体を固定部に上記の固定部の弾性力に抗して取付けると、その反力により同ランプ本体が上記アウトパネル方向に押圧されて取付けられ、上記ランプ本体の上記取付孔への挿入方向と上記反力の方向が略一致するため、上記取付時のずれの発生や上記アウトパネル歪みによる変形の発生を防止することができる。

【図面の簡単な説明】

【図1】本発明の実施形態を示すもので、図15と同様の断面を示す縦断面図である。

【図2】図1のランプハウジングとレンズとを組付けたランプ本体の単体を示す斜視図である。

【図3】図1のインナパネルに形成されたランプ本体の挿入孔と弾性的に同ランプ本体を支持する固定部を示す正面図である。

【図4】図3のインナパネルにランプ本体を配設した状態を示す正面図である。

【図5】図3の矢視T1のランプブラケットを固定する上記インナパネルの弾性支持の上記固定部の斜視図である。

【図6】図3の矢視T2のランプブラケットを固定する上記インナパネルの弾性支持の上記固定部の斜視図である。

【図7】図4の7A-7A線に沿う断面図である。

【図8】図4の8A-8A線に沿う断面図である。

【図9】図4の9A-9A線に沿う断面図である。

10 【図10】図8, 11に示すシール材が装着されたランプ本体を示す斜視図である。

【図11】図8のY部を示す拡大図である。

【図12】図1の上記固定部の応用例を示す図7と同様の状態を示す説明図である。

【図13】図1の上記固定部のその他の応用例を示す説明図である。

【図14】従来例の乗用車の後方を示す斜視図である。

【図15】図14の15A-15A線に沿う断面図である。

20 【図16】図14のランプ装置の裏面視を示す斜視図である。

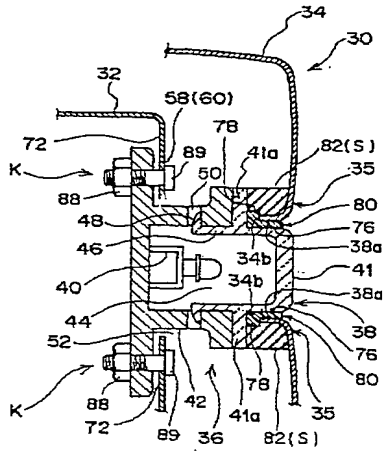
【符号の説明】

| | |
|--------|----------|
| 30 | トランクリッド |
| 32 | インナパネル |
| 34 | アウトパネル |
| 34a | アウトパネル裏面 |
| 36 | ランプ本体 |
| 38 | 取付孔 |
| 40 | バルブ |
| 30 41 | レンズ |
| 42 | ハウジング |
| 44 | 開口 |
| 46 | 脚部 |
| 48 | 爪 |
| 50 | 係合孔 |
| 52 | 開口 |
| 54 | ランプブラケット |
| 54a | 貫通孔 |
| 55 | ランプブラケット |
| 40 55a | 貫通孔 |
| 58 | 固定部 |
| 60 | 固定部 |
| 62 | 切込み |
| 64 | 弾性部 |
| 66 | 長手方向端部 |
| 68 | ボルト孔 |
| 70 | 屈曲面部 |
| 70a | 屈曲面 |
| 70b | 屈曲面 |
| 50 72 | 取付面 |

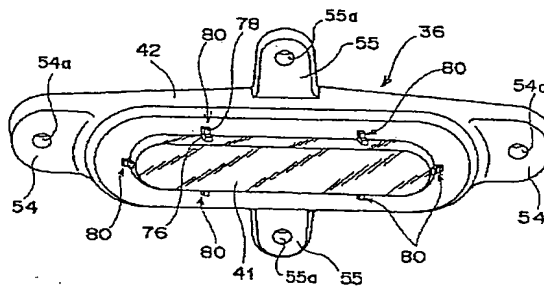
74 凹部
76 面部
78 面部
80 リブ
82 シール材
88 ナット

89 ボルト
92 ランプブラケット
94 開口
K 取付手段
P 位置決め手段
S シール手段

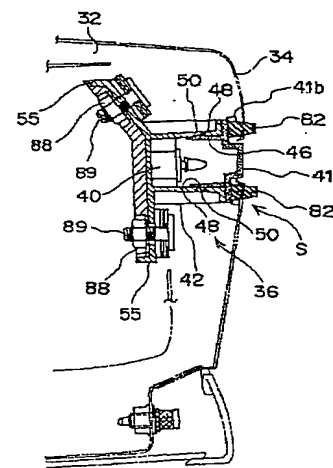
【図 1】



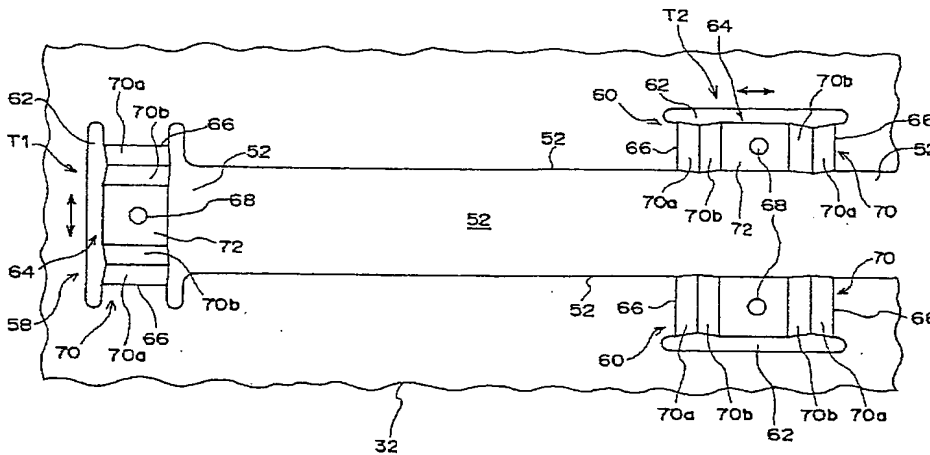
【図 2】



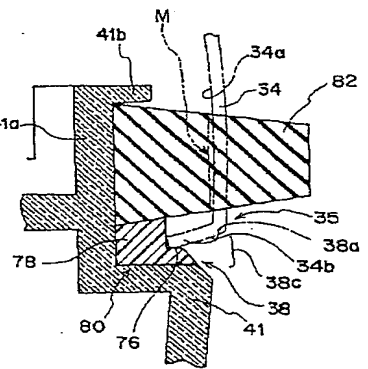
【図 9】



【図 3】

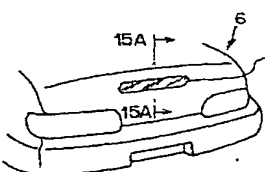


【図 11】

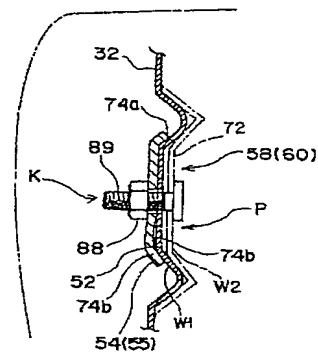
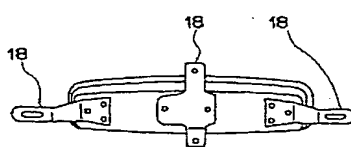


【図 12】

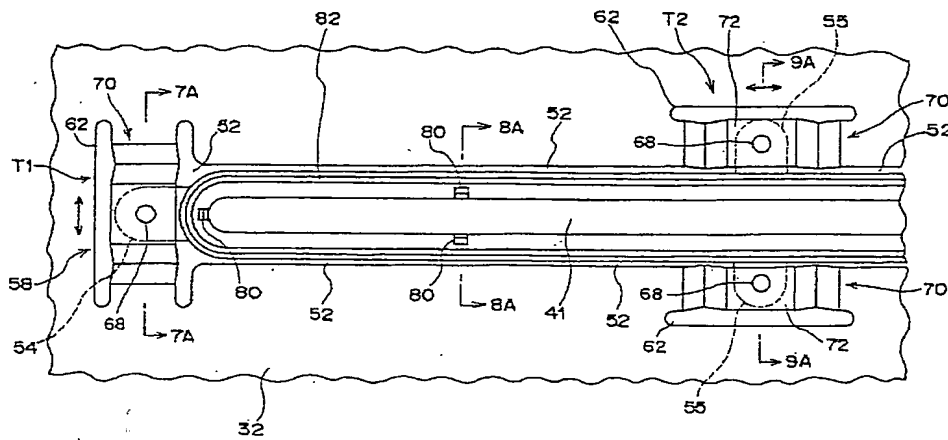
【図 14】



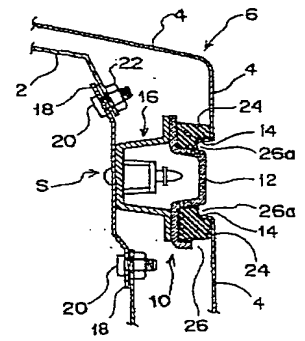
【図 16】



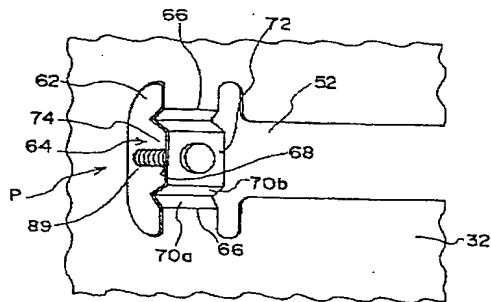
【図 4】



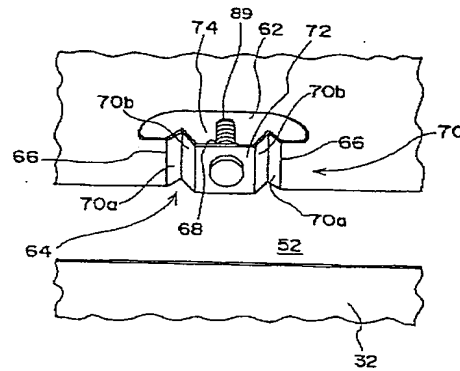
【図 15】



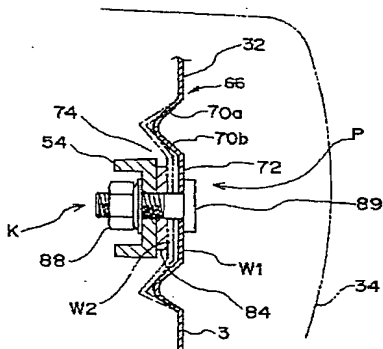
【図 5】



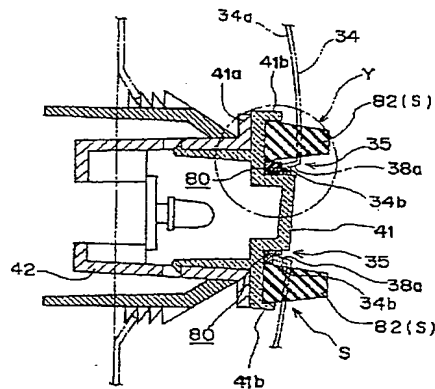
【図 6】



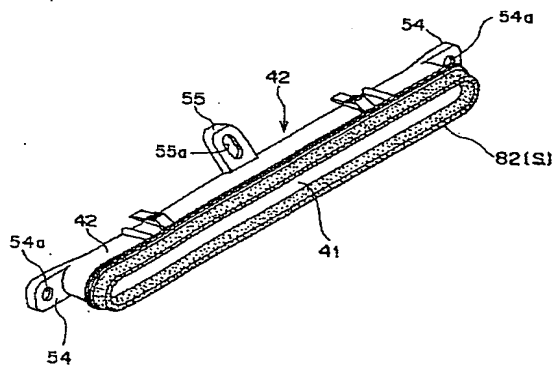
【図 7】



【図 8】



【図10】



【図13】

